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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,476	08/16/2001	Kazuo Ogino	330-239	9934

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EXAMINER

HUG, ERIC J

ART UNIT PAPER NUMBER

1731

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/930,476		OGINO ET AL.	
	Examiner		Art Unit	
	Eric Hug		1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-13 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12 and 19 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

The following is in response to the amendment filed on July 3, 2003.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Rapp (US 4,076,541). Rapp discloses bubbling dry air through a molten phosphate glass to improve transparency of a resulting laser glass. Rapp obtains an improved phosphate laser glass when the atmosphere in contact with the molten glass during melting is a dry oxygen-containing gas, such as dry air or oxygen. During at least part of the melting the dry gas can be bubbled through the melt to speed the process of drying if desired (column 2, lines 39-46).

This process is further described in the Examples, as in Example 1 by bubbling the gas through a batch sample of glass placed within a furnace (column 4, lines 53-67) or in Example 18 (column 65, lines 32-35) where the glass is melted with purging dry air above the surface of the melt rather than by bubbling dry air through the melt. Therefore, Rapp teaches providing an oxygen gas to a phosphate glass at a point where the glass raw material is charged.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukawa et al (US 4,919,699). Matsukawa discloses bubbling PCl_3 or POCl_3 with oxygen carrier gas into a molten glass to remove platinum inclusions therefrom or to prevent the formation of inclusions therein, the inclusions being formed from the platinum vessel where the glass is melted. The extent of removal of platinum inclusions depends on the vapor pressure of the PCl_3 or POCl_3 and the flow rate of the oxygen. The use of chlorine-containing gases is to enhance ionization and to prevent ultraviolet absorption versus using oxygen alone. See in column 2, lines 33-49. From this teaching, oxygen itself also accomplishes the purpose of removing or preventing platinum inclusions by its oxidative nature.

Figure 1 shows an apparatus for bubbling the gases through the molten glass, the gas being introduced into the molten glass within the platinum vessel. Although this depicts a batch melting process compared to the process of the present invention (which discloses a continuous melting process), the claims are unpatentable in view of *In re Dilnot*, 319 F.2d 188, 138 USPQ 248 (CCPA 1963), where it was held that a continuous operation is obvious in light of a prior art batch process. Nevertheless, the present invention does not claim a continuous process, and therefore the claims must be given their broadest reasonable interpretation in light of the specification. In Matsukawa, gas is bubbled from the bottom of the vessel to the top as in the process of the present invention. Therefore, this bubbling must be interpreted as also being at the position where raw material is charged to the vessel.

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3. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukawa et al in view of Broemer (US 4,857,487). Although Matsukawa discloses several types of phosphate glass, Matsukawa does not disclose a metaphosphate glass or fluorophosphate glass. However, Broemer teaches that it is known to use an aluminum metaphosphate and fluorine compound for making fluorophosphate glass. Since this type of glass is well known, and since it is reasonable to expect a metaphosphate and a fluorophosphate glass to exhibit the same problems with platinum inclusions when melted in a platinum vessel, then therefore at the time of the invention, it would have been obvious to one skilled in the art to bubble the gases disclosed by Matsukawa in a phosphate glass made from metaphosphate and/or fluoro-containing compounds.

Allowable Subject Matter

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest controlling the charging rate and/or withdrawal rate to adjust the depth of the molten glass relative to the distance between the glass raw material charging port and the liquid surface of the molten glass, such control being in conjunction with bubbling an oxygen gas through the molten glass.

Response to Arguments

Applicant's arguments filed July 3, 2003 with respect to the rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Verhappen et al (US 4,019,888) in view of Alexander (US 3,997,313) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. As a result, the rejection of dependent claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Verhappen et al in view of Alexander and Broemer et al (US 4,857,487) is withdrawn, and the rejection of dependent claim 13 under 35 U.S.C. 103(a) as being unpatentable over Verhappen et al in view of Alexander and Ogino (US 4,983,198) is withdrawn. However, upon further consideration, a new grounds of rejection is made in view of the above applied art.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

LaCourse et al (US 5,215,563) discloses melting a phosphate glass under an enriched oxygen atmosphere.

Miura et al (US 4,806,138) discloses melting a fluorophosphate glass free from platinum inclusions by melting in a carbon container under non-oxygen atmosphere.

Nakamura (JP 63-035434) discloses batch process comprising bubbling dried oxygen gas through a phosphate glass during melting.

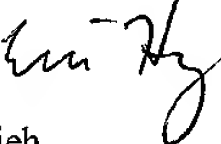
Manabe et al (JP 62-223028) discloses bubbling oxygen gas into a phosphate glass during melting.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 703 308-1980. The examiner can normally be reached on Monday through Friday, 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0651.


jeh


STEVEN P. GRIFFIN
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